

REMARKS

At the outset, the Applicant thanks the Examiner for the thorough review and consideration of the subject application. The Office Action of February 13, 2003 has been received and its contents have been carefully reviewed.

By this Amendment, Applicant amends claims 1, 14, 27, 31, 35 and 39, and cancel claims 25-26, 34 and 42 without prejudice or disclaimer. Accordingly, claims 1-24, 27-33, 35-41 and 43-78 are currently pending in the present application. Reexamination and reconsideration of the application are respectfully requested.

In the Office Action, the Examiner rejected claims 1-78 under 35 U.S.C. § 103(a) as being unpatentable over Cervantes et al. (U.S. Patent No. 6,379,985) in view of Tomomura et al. (U.S. Patent No. 5,103,269). Applicant respectfully traverses this rejection.

Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “reducing a surface roughness of the transparent substrate using inductively coupled plasma reactive ion beam etching (ICPRIE)....” However, none of the cited references, singly or in combination, teaches or suggests reducing surface roughness of a transparent substrate using inductively coupled plasma reactive ion beam etching. Thus, for at least this reason, the Applicant respectfully submits that claim 1, as well as claims 2-13 and 49-54, which depend therefrom, are allowable over the cited references.

Claim 14 is allowable over the cited references in that claim 14 recites a combination of elements including, for example, “forming an n-type layer and a p-type layer on a substrate, wherein the substrate includes sapphire” and “forming a scribe line on the substrate using inductively coupled plasma reactive ion beam etching.” Again, none of the cited references, singly or in combination, specifically teach or suggest forming a scribe line on a sapphire substrate using inductively coupled plasma reactive ion beam etching. Accordingly, the Applicant respectfully submits that claim 14, and claims 15-24 and 56-60, which depend therefrom, are allowable over the cited references.

Similarly, claim 27 recites a combination of elements including, for example, “forming an active layer over a transparent substrate... wherein the transparent substrate includes sapphire; reducing a surface roughness of the transparent substrate using inductively coupled plasma

reactive ion beam etching;" and "forming scribe lines on the transparent substrate...using inductively coupled plasma (ICP) reactive ion beam etching (RIE)." As state above, none of the cited references, singly or in combination, specifically teach or suggest these features.

Therefore, the Applicant respectfully submits that claim 27 and claims 28-30 and 61-66, which depend therefrom, are allowable over the cited references.

Claim 31 is allowable over the cited references in that claim 31 recites, among other things, "forming an n-GaN layer having a first doping concentration on a first side of the transparent substrate, wherein the transparent substrate includes sapphire...reducing a surface roughness of the transparent substrate using an inductively coupled plasma reactive ion beam etching...and...forming scribe lines on one of the first and second sides of the transparent substrate to separate the plurality of diodes using inductively coupled plasma reactive ion beam etching." Once again, none of the cited references, singly or in combination, specifically teach or suggest these features. Accordingly, Applicant respectfully submits that claim 31 and claims 32-33 and 67-72, which depend therefrom, are allowable over the cited references.

Claim 35 recites a combination of elements that includes "reducing a surface roughness of the substrate using inductively coupled plasma reactive ion beam etching." Like claim 1, this feature is not specifically taught in any of the cited references, singly or in combination with one another. Accordingly, Applicant respectfully submits that claim 35 and claims 36-38 and 73-78, which depend therefrom, are allowable over the cited references.

Lastly, claim 39 recites, among other things, "forming a first epitaxial layer on a first surface of a substrate...wherein the substrate further includes sapphire...and forming a scribe line on one of the first and second surfaces of the substrate to separate the plurality of diodes using inductively coupled plasma reactive ion beam etching." As stated, none of the cited references, singly or in combination, specifically teach or suggest forming a scribe line on a surface of a sapphire substrate using inductively coupled plasma reactive ion beam etching. Thus, the Applicant respectfully submits that claim 39 and claims 40, 41 and 43-48, which depend therefrom, are allowable over the cited references.

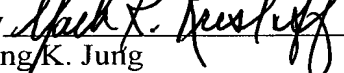
The Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. If the Examiner deems that a telephone conference would further the prosecution of this application, the Examiner is invited

to call the undersigned attorney at the telephone number (202) 496 - 7500. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: May 6, 2004

Respectfully submitted,

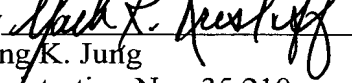
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